ANITA SHAH

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CAREER INTERESTS

Computer Programming and Neuroengineering
Robotics and artificial intelligence; computer vision; machine learning; intelligent user interfaces; brain-machine interfaces; virtual reality systems; video game design

SUMMARY OF HIGHLIGHTS

- Over four years of work experience as a research assistant on clinical and laboratory studies.
- Neuroscience and Molecular Biology Skills and Knowledge:
    - DNA, RNA, and cDNA Preparation
    - PCR; RT-PCR
    - RT-PCR
    - Agarose Gel Electrophoresis
    - Molecular Cloning; Vector Design; Cell Culture
    - Primer Design
    - RNA-seq; RNAi; in situ hybridization
    - Bacterial transformation; electroporation
    - Immunohistochemistry
    - Homologous recombination
    - Brain sectioning and mounting
    - Neural Recording (intracellular and extracellular micro-electrodes)
    - Insect and Animal husbandry
    - Intramuscular injections
    - Designing and implementing fitness tests
    - Dissection of multiple organisms

- Computer Skills
    - MS Office Suite; SPSS; Minitab; Geneious; imageJ, MATLAB, Python
- Strong leadership and teamwork skills demonstrated in academic, work and volunteer experiences.

EDUCATION

Chase Collegiate School   **Waterbury, CT.**   **2006-2010**
Graduated in the top 10% with a GPA of 3.83.

Bowdoin College   **Brunswick, ME**   **2010-2014**
B.A. – Double major in Neuroscience and Anthropology; Premed Graduate with a focus on Molecular Biology and Genetics; Overall GPA: 3.4

EMT-B Training   **South Windsor, CT.**   **2014**
Graduated from South Windsor CPR Training Professionals, LLC with a 94% grade point average. Passed the 6-stage EMT state practical test (Nov. 8th) on the first attempt.

CPR Certification   **South Windsor, CT.**   **2014**
Successfully completed the cognitive and skills evaluations in accordance with the curriculum of the American Heart Association BLS for Healthcare Providers (CPR and AED) Program. Issued August 22nd 2014.

EMPLOYMENT HISTORY

Bowdoin College Q-Reasoning   **Brunswick, ME.**   **Fall, Spring 2010-2014**
Worked for the Q-Reasoning program as a tutor for biology, chemistry, and math. Acted as a study group leader, conducted individual tutoring, and been involved in drop-in tutoring.

Head Academic Mentor for Rugby Team   **2011-2014**
Acted as an Academic Mentor for my varsity rugby team to improve individual GPAs and achieve academic goals. Tasks included providing time management, study skills, organization skills, test-taking tips, reading skills (to increase speed of reading), writing skills, note-taking skills, and tutoring for Rugby players.

Bowdoin Science Experience (BSE) Mentor   **2011-2014**
Promoted life sciences, mathematics, physics, and computer science to incoming freshman during a pre-orientation camp once a year. Designed, organized, and implemented science programs including laboratory experiences, mathematical games, research presentations, organizational exercises, marine life tours, and trips.

Baldwin Mentor   **2011-2014**
Trained and mentored students at Bowdoin College in time management, organizational skills, note-taking skills, test-taking skills, speed reading, writing skills, memory improvement, and study skills.

Child and Adult Psychiatric Services   **Waterbury, CT.**   **2014-January 2017**
Was in charge of the office's billing, accounting, bookkeeping, and transcription. Routinely worked with Peachtree and MedicsPremier software while utilizing the ADS system and Emdeon to submit claims. Restructured most of the old billing procedures to reduce paper consumption, improve payment rate, and reduce the number of open claims. Developed routine protocols to immediately flag claims for resubmittal, identify unjust denials, and improve overall efficiency of billing and bookkeeping. Also gained experience with graphic design and advertising when recruited by the company to create a series of program brochures and improve patient turnout.

AWARDS AND ACHIEVEMENTS

Harvard Book Club Award   **2010**
The Harvard Book Award is an award given out by the alumni of Harvard University to the top-performing student in his/her senior year from 1,900 "selected" high schools.

Headmaster's Award   **2010**
Award given to both a graduating girl and boy, who have made unique contributions to Chase Collegiate in ways that bring great credit to the school.

National AP Scholar   **2010**
Granted to students in the United States who receive an average score of at least 4 on all AP Exams taken, and scores of 4 or higher on eight or more of these exams.

Howard Hughes Medical Institute Fellowship   **2011**
Awarded for Academic Research while at Bowdoin College

Athletes Academic Award for Excellence   **Bowdoin College**   **2012, 2013, 2014**
Awarded to Varsity Sports players for academic excellence

COMPUTER SCIENCE EXPERIENCE

Child and Adult Psychiatric Services   **Waterbury, CT.**   **2016-2017**
Designed an in-house secure and private local area network that connected all of the offices' computers on a single server and allows access to each computer's files and programs. Specifically designed the system to allow every computer to access the scheduling software housed on only one of the machines with immediate updating of appointments, as well as universal access to billing software housed on a single computer. Designed and hosted a website from scratch for the office using HTML, CSS, and javascript. A link to the website can be found on my portfolio at https://anitafrakingshah.github.io/.

Github and Website Portfolio   **2016-2017**
Designed a personal website portfolio that is currently being hosted on my github page and can be found at https://anitafrakingshah.github.io/. Highlighted are examples of small coding projects learned from the UCONN course Introduction to Computing for Engineers, arduino and instructables projects, as well as github projects. Also highlighted are past interdisciplinary papers written while at Bowdoin, including the neurochemistry of gamers, the concept of self-identity in WOW players, and the economic success of alternate reality games.

RESEARCH EXPERIENCE

Research Assistant   **Department of Chemistry at Bowdoin College**   **2010-2011**
Investigated the functional role of crustacean neuropeptides on a team supervised by Elizabeth Stemmler.

Research Assistant   **Department of Biology at Bowdoin College**   **2011-2014**
Investigated the importance of HCNEs in Drosophila melanogaster under the supervision of Michael Palopoli. Developed and utilized a novel method for homologous recombination in Drosophila melanogaster under the supervision of Jack Bateman.

Research Internship   **Department of Gastroenterology at BIDMC**   **June-August 2013**
Awarded to only two students from Bowdoin College every year. Developed standardized tools that can be used to assess the quality of moderate sedation performed in medical procedures. Worked on a team of five under the supervision of Daniel Leffler, M.D. (Director of Clinical Research at BIDMC) and Sheila Barnett, M.D. (Director of Gastrointestinal Anesthesia). Work included data collection, data analysis, literature searches, recruitment of study participants, preparation of focus groups, presentation for focus groups, and presentation of the results from said focus group.

Research Assistant   **Department of Neuroscience at Bowdoin College**   **Sept-Dec 2013**
Investigated the role of Sema-2a on the dendritic growth of deafferented, ascending neurons (AN1 and AN2) and the axonal growth of the contralateral auditory nerves (N5) in Gryllus bimaculatus.

SPECIAL SKILLS

Computer Skills
- *Highly experienced with Microsoft Word, Excel, PowerPoint, OneNote, and Geneious.*
- *Advanced experience with Adobe Photoshop and Gimp. Intermediate knowledge with MATLAB, beginner knowledge of Python.*
- *Basic experience with HTML and CSS and Java coding, to the point that I was able to construct a website.*
- *Basic experience with C/C++ as seen in an Arduino IDE*

Data Analysis
Highly experienced with SPSS and Minitab:
- *Have performed parametric one-tailed and two-tailed t-tests with an understanding of the difference between within and between-subjects*
- *Have performed one-way between-subjects ANOVA (specific group comparisons or post-hoc comparisons performed if a significant effect was found)*
- *Have performed two-way between-subjects ANOVA, multifactor between-subjects ANOVA, one-way within-subjects ANOVA, two-way within-subjects ANOVA, multifactor within-subjects ANOVA, and ANOVA tests with both between-subjects and within-subjects factors*
- *Have performed non-parametric tests including the Wilcox signed-rank test, Wilcox rank-sum test, Mann-Whitney U Test, Kruskal-Wallis Test, and Friedman test*
- *Have performed Chi-square tests and Cochran's Q test;*
- *Have performed standard tests to determine mean, median, mode, variance, and standard deviation.*

CONFERENCE PARTICIPATION

Stauffer, J., Shah, A**. A Novel Method: Captured Segment Exchange.** *Maine Biological and Medical Sciences Symposium,* Maine, April 2012.

Parsons, C., Shah, A. **The Function of HCNEs in Drosophila melanogaster.** *Maine Biological and Medical Sciences Symposium,* Maine, April 2013.

Stauffer, J., Shah, A**. The Functional role of the HCNE *tsh* in Drosophila melanogaster.** *Society of Neuroscience Conference,* San Diego, November 2013.

PUBLICATIONS

Genetics Journal   **2012**
Bateman, J. Palopoli, M. Dale, S. Stauffer, J. Shah, A. Johnson, J. Walsh, C. Flaten, H. and Parsons, C. Captured Segment Exchange: A Strategy for Custom Engineering Large Genomic Regions in Drosophila melanogaster. <http://www.genetics.org/content/early/2012/11/06/genetics.112.145748.abstract>

GIE: Gastrointestinal Endoscopy Journal   **October 4th 2014**
Leffler, D. Bukoye, B. Sawhney, M. Berzin, T. Sands, K. Barnett, S. Shah, A. Chowdry, S. Development and Validation of the Procedural Sedation Assessment Survey (PROSAS) for Assessment of Procedural Sedation Quality. www.giejournal.org/article/S0016-5107(14)02055-0/abstract

Amazon Kindle   **April, 2016**
Shah, Anita. Book One of the Wayward Trilogy: Scarce A Whisper. Connecticut: Anita Shah. 2016. E-book.